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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,703	02/03/2004	Tokuroh Ozawa	039803.99	4464

25944 7590 01/18/2007  
OLIFF & BERRIDGE, PLC  
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EXAMINER
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LAO, LUN YI

ART UNIT	PAPER NUMBER
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2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/18/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/773,703	<b>Applicant(s)</b> OZAWA, TOKUROH	
	<b>Examiner</b> LUN-YI LAO	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11 July 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) 17-36, 40, 41 and 43-46 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-8 is/are allowed.
- 6) ☒ Claim(s) 9, 11-16, 37-39 and 42 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>2/23/2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Reissue Applications***

1. The person who signed the submission establishing ownership interest has failed to state his/her capacity to sign for the corporation or other business entity, and he/she has not been established as being authorized to act on behalf of the assignee. See MPEP § 324.

### ***Election/Restrictions***

2. Applicant's election with traverse of Species I in the reply filed on July 11, 2006 is acknowledged. The traversal is on the ground(s) that the subject matter of all species is sufficiently related that a thorough search for the subject matter of any one species would encompass a search for the subject matter of the remaining species. This is not found persuasive because Species I, figures 1-7 directly related to an D/A converter with gamma correction and Species II, figures 8-20 directly related to YUV convert to RGB. The search for Species I is 348/254 and the search for Species II is 345/604. They have separate searches and Species I of an D/A converter with gamma correction does nor operated with an converter for converting YUV to RGB as required in Species II. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required

Art Unit: 2629

because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 15-16 will be objected to under 37 CFR 1.75 as being a substantial duplicate.

Claim 15 and claim 16 are identical and applicants should cancel claim 16.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 9, 11-16, 37-39 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujiyoshi et al(5,251,051) in view of Uchida et al(5,017,914).

As to claims 9, 11-16, 37-39 and 42, Fujiyoshi et al teach a display element device comprising a converter(see figure 2; column 3, lines 58-68 and column 4, lines 1-19) to apply a voltage based on a given image signal to an electrode line(column line, 24)(see figures 2, 4-5) which is electrically connected to a capacitive display element(2,4)(see figure 2, 4-5; column 1, lines 15-36; column 3, line 58-68 and column 4, lines 1-29). Fujiyoshi et al teach the converter comprising a first charge storage device(C1) for receiving first digital data(B1) associated with the image signal and stored a charge corresponding to a value of the first digital data(B1); a second charge storage device(C2) for receiving second digital data(B2) associated with the image signal and stored a charge corresponding to a value of the second digital data(B2); a first connection device(29) to electrically connected to the first charge storage device(C1) and to discharge the charge stored in the first charge storage device(C1) to the electrode line(column line, S1, 24) at a given timing and a second connection device(30) to electrically connected to the second charge storage device(C2) and to discharge the charge stored in the second charge storage device(C2) to the electrode line(column line, S1, 24) at a given timing as the given timing(see figures 2, 4-5; column 3, lines 58-68; column 4, lines 1-62 and column 5, lines 1-27).

Fujiyoshi et al fail to point out the converter is an D/A converter.

Uchida et al teach a display system comprising an D/A converter(20a, 20b) for converting digital data to analog data applied to an LCD display(see figure 2 and column 3, lines 7-23). It would have been obvious to have modified Fujiyoshi et al with the teaching of Uchida et al, so to have an D/A converter in Fujiyoshi's display system

Art Unit: 2629

since Uchida et al needed an D/A converter for converting digital data(B1-B4) to analog data(see figure 2).

As to claim 11, Fujiyoshi et al as modified teach the D/A converter comprising third to Nth charge storage devices(C3-C4)(e.g. third bits to fourth bits) and third to Nth connection devices(third bit to Nth bit, 2, 3)(see figure 2 and column 3, lines 58-61).

As to claim 12, Fujiyoshi et al as modified teach the first to Nth charge storage device(C1-C4) storing the charges based on the first to Nth digital data and at least one given voltage(Vc)(see figures 2-5; column 3, lines 58-68 and column 4, lines 40-54).

As to claim 13, Fujiyoshi et al as modified teach capacitor elements(C1-C4) having one side to which a given voltage is applied and capacitances which are binary weighted(C1:C2:C3:C4=1:2:4:8) and the first to Nth connection devices including switches(29-32) to electrically connect to other side of the capacitive elements(C1-C4) and electrode line(34) at a same given timing(see figures 2-5; column 3, lines 48-68; column 4, lines 1-19 and lines 40-54).

As to claim 14, Fujiyoshi et al as modified teach the first to Nth charge storage devices(C1-C4) selecting at least one capacitor element from the capacitor elements(C1-C4) to store a charge based on the first to Nth digital data and storing a charge in the selected capacitor element(C1-C4) at least one given voltage(Vc)(see figure 2; column 3, lines 58-68 and column 4, lines 40-54).

As to claims 15-16, Fujiyoshi et al as modified teach digital data(B1-B4) having a complementary format of 2, and the capacitance of the capacitor element(C1-C4) corresponding to a most significant bit(e.g. B4) of digital data among the capacitor

Art Unit: 2629

elements(C1-C4) included in at least one of the first to Nth charge storage device(C1) being made equal to the capacitance of a capacitor(C4) corresponding to a least significant bit(B1)(see figure 2; column 3, lines 58-68 and column 4, lines 40-54).

As to claim 37, Fujiyoshi et al teach a substrate on which a switching element(3, TFT transistor) selecting a display element(2)(see figures 4-5 and column 1, lines 12-27) and the display element driving device(6) being integrally formed on the substrate(a glass board(see figure 4 and column 5, lines 45-49).

### ***Allowable Subject Matter***

7. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 1-8 are allowable since none of cited references teach a display driving device comprising an D/A converter having second charge storage means for receiving correction digital data for compensating for display characteristics of said display element and for storing a charge corresponding to a value of the correction digital data; with all other limitations cited in claim 1.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Cairns et al(6,154,121) teach an LCD display having a non-linear digital-to-analog converter.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi Lao whose telephone number is 571-272-7671. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on 571-272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

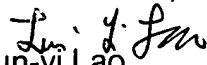


Application/Control Number: 10/773,703

Page 8

Art Unit: 2629

December 23, 2006

  
Lun-yi Lao

**Primary Examiner**